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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,494	11/07/2005	Hirokazu Ooe	2936-0243PUS1	3946
2292 7590 09/01/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER MENDEZ, ZULMARIAM				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
09/01/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/535,494

Applicant(s)

OOE ET AL.

Examiner

ZULMARIAM MENDEZ

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date See Continuation Sheet
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :03/28/2007; 09/28/2005, 05/18/2005.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 2-4 and 7 are rejected under 35 U.S.C. 102(e), as being anticipated by Mae et al. (US Patent Application Publication no. 2004/0144136).

With regard to claim 2, Mae discloses an electric washing machine with water treatment means that includes a pair of electrodes for electrolysis of the tap water and is adapted to produce the cleaning liquid by electrolyzing the tap water through energization of the pair of electrodes (33; page 1, paragraphs 3 and 5), comprising: a casing having a water inlet (35) and a water outlet (34) allowing a water current flow from the inlet (35), through the casing, and out from the outlet (34; see figure 3); and terminals (84, page 6, paragraph 72; figures 3-4) that are so laid as to run from the electrodes (33) out of a casing of the chamber (32), the terminals (84) being disposed on an upstream side/water inlet (35) with respect to a water current flowing through an inside of the casing (32; figures 3 and 4), wherein the electrodes (33) extend along a direction of water flowing out of the inlet (35) as shown in figure 3. Even though Mae

shows wherein the openings for water flow are located one above the other, in such a way that the fluid flows in a vertical orientation through the cell, Mae also discloses that the way of water flow in the pair of water communication paths (34, 35) is not particularly limited, but it is also conceivable that the water flows in a direction opposite to that described above. It is merely necessary that the pair of water communication paths (34, 35) are provided for the water inlet and outlet (page 5, paragraph 67).

With regard to claim 3, Mae discloses an electric washing machine with water treatment means that includes a pair of electrodes for electrolysis of the tap water and is adapted to produce the cleaning liquid by electrolyzing the tap water through energization of the pair of electrodes (33; page 1, paragraphs 3 and 5), comprising: a casing having a water inlet (35) and a water outlet (34) allowing a water current flow from the inlet (35), through the casing, and out from the outlet (34; see figure 3); and terminals (84, page 6, paragraph 72; figures 3-4) that are so laid as to run from the electrodes (33) out of a casing of the chamber (32), the terminals (84) being disposed on an upstream side/water inlet (35) with respect to a water current flowing through an inside of the casing (32; figures 3 and 4); and a supporting portion (80, 85) for supporting downstream-side parts/outflow port (34) of the electrodes (33) being formed on an inner surface of the casing (32), wherein the electrodes (33) extend along a direction of water flowing out of the inlet (35) as shown in figure 3. Even though Mae shows wherein the openings for water flow are located one above the other, in such a way that the fluid flows in a vertical orientation through the cell, Mae also discloses that the way of water flow in the pair of water communication paths (34, 35) is not

particularly limited, but it is also conceivable that the water flows in a direction opposite to that described above. It is merely necessary that the pair of water communication paths (34, 35) are provided for the water inlet and outlet (page 5, paragraph 67).

With regard to claim 4, Mae discloses an electric washing machine with water treatment means that includes a pair of electrodes for electrolysis of the tap water and is adapted to produce the cleaning liquid by electrolyzing the tap water through energization of the pair of electrodes (33; page 1, paragraphs 3 and 5), comprising: a casing having a casing body (1) and a lid (19) attached to the casing body (1), the lid having a support (3, 4) that extends into a chamber (2) defined inside the casing (1); terminals (84, page 6, paragraph 72; figures 3-4) laid from the electrodes (33) being so formed as to penetrate a bottom wall of a casing (32; see figure 4) and protrude downwards (page 6, paragraph 72); and a sleeve (portion of chamber (32) as shown in figure 1) that engages with a surface of an electrode (33) and makes contact with a support (3) when the lid (19) is attached to the casing body (1; page 7, paragraph 92).

With regard to claim 7, Mae discloses an electric washing machine with water treatment means that includes a pair of electrodes for electrolysis of the tap water and is adapted to produce the cleaning liquid by electrolyzing the tap water through energization of the pair of electrodes (33; page 1, paragraphs 3 and 5), comprising: water communication ports (34 and 35), to allow recirculation of water through the device, formed in a casing of the device (60), wherein a bottom surface of the casing (70) and an inner surface of a lowest portion of the water communication port (35) share

a common plane as shown in figure 3 (page 5, paragraphs 66-67).

3. Claims 5 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Scheper et al. (US Patent no. 7,413,637).

With regard to claim 5, Scheper discloses an appliance having a washing basin comprising an electrolytic device for improved cleaning (col. 2, lines 44-47) wherein the electrolytic device (10a; figure 1) comprises: a water inflow (17a) and a water outflow port (18) formed in a casing (12), wherein the water outflow port (18) is given a smaller cross-sectional flow area than the water inflow port (17a; as shown in figures 1 and 2).

With regard to claim 6, Scheper discloses an appliance having a washing basin comprising an electrolytic device for improved cleaning (col. 2, lines 44-47) wherein the electrolytic device (10a; figure 1) comprises: a casing (12), wherein a cross-sectional area of an interior space of the casing (12) of the electrolytic device gradually decreases from an upstream side (inlet 17a) to a downstream side (outlet 18; see figure 1).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1, 8, 9, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiyama (JP 2002-263649) in view of Gale et al. (US Patent no. 5,198,078).

With regard to claims 1, 8, 9, 11 and 13, Nishiyama discloses a method and apparatus for giving a sterilization function to water to be used for kitchen service water, bathtub, and washing service water, among others (page 2, paragraphs 2-3) by energizing electricity to silver electrodes (page 4, paragraph 9; page 8, paragraph 22), but fails to explicitly disclose wherein an interval between the electrodes becomes narrower, from an upstream side/input to a downstream side/output, with respect to a water current flowing through an inside a casing of the ion elution unit.

Gale teaches an electrolytic device wherein the anode-cathode distances must be reduced to a practical minimum, while providing sufficient space for circulation of the bath (col. 1, lines 46-49). The anode-cathode distance at one side of the anode increases periodically to avoid constriction of electrolyte circulation (col. 1, lines 51-54). Therefore, one having ordinary skill in the art at the time of the invention would have

found it obvious to use an electrode configuration, as taught by Gale, in the electrolytic device of Nishiyama, in order to avoid constriction of electrolyte circulation.

7. Claims 10, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiyama, as applied to claim 9 above, in view of Miyazaki (JP 2001-276828).

With regard to claims 10, 12 and 14, Nishiyama discloses all of the features, as disclosed to claim 9 above, but fails to teach wherein polarities of the electrodes are reversed periodically. however, Miyazaki discloses an electrolysis disinfection method and apparatus of water which is used for disinfecting wash water, such as Poole as well as for drinking water, among others (page 1, paragraph 1) wherein the electrolysis disinfection equipment consists of the a first electrolytic device which generates complex ions by energizing a first set of silver or copper electrodes (page 3, paragraphs 8-10) wherein a phase inversion is carried out between the electrodes in order to disinfect or eliminate undesired materials that have been deposited on the electrodes during processing (page 5, paragraphs 14-17). Therefore, one having ordinary skill in the art at the time of the invention would have found it obvious to reverse the polarities of the electrodes, as taught by Miyazaki, in the apparatus of Nishiyama, in order to disinfect or eliminate undesired materials that have been deposited on the electrodes during processing.

Response to Arguments

8. Applicant's arguments filed on May 21, 2009 have been fully considered but they are not persuasive. The applicant argues the following:

a. Mae does not disclose wherein the electrodes extend along direction of water flowing out of the inlet/communication path. In response, the examiner does not find this argument persuasive because Mae teaches electrodes (33), which extend along a direction of water flowing out of the communication path (35) as shown in figure 3. In addition, Mae discloses that the way of water flow in the pair of water communication paths (34, 35) is not particularly limited, but it is also conceivable that the water flows in different directions. It is merely necessary that the pair of water communication paths (34, 35) are provided for the water inlet and outlet (page 5, paragraph 67).

b. Mae fails to teach a chamber having a casing body and a lid attached to the casing body, the lid having a support that extends into a chamber defined inside the casing, as required in the amended claims. In response, the examiner does not find this argument persuasive because Mae does teach a casing having a casing body (1) and a lid (19) attached to the casing body (1), the lid having a support (3, 4) that extends into a chamber (2) defined inside the casing (1, figure 1), as discussed above.

9. Applicant's arguments with respect to claim 5 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues that King does not teach wherein the water outflow is given a smaller cross-sectional flow area than the water

inflow port, as amended. However, a new ground of rejection has been presented above.

10. Applicant's arguments with respect to claim 7 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues that Hayes fails to teach wherein a bottom surface of the casing and an inner surface of a lowest portion of the water outflow port share a common plane, as amended. However, a new ground of rejection has been presented above.

11. Applicant's arguments with respect to claim 6 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues that Mae fails to disclose wherein a cross-sectional area of the device gradually decreases from an upstream to a downstream. However, a new ground of rejection has been presented above.

12. Applicant's arguments, see page 12 of Remarks, filed on May 21, 2009, with respect to the rejection of claim 1 under 35 U.S.C 103(a) as being unpatentable over Nishiyama (JP 2002-263649) have been fully considered and are persuasive. The applicant argues that Nishiyama does not teach wherein the distance between one end of a pair of electrodes is different from a distance between another end of the pair of electrodes. However, upon further consideration, a new ground(s) of rejection has been made above.

Conclusion

13. Due to the new grounds of rejection presented in this Office Action, this document has been made Non-Final.

14. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZULMARIAM MENDEZ whose telephone number is (571)272-9805. The examiner can normally be reached on Monday-Friday from 9am to 5pm.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer Michener can be reached on 571-272-1424. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Harry D Wilkins, III/
Primary Examiner, Art Unit 1795

/Z. M./
Examiner, Art Unit 1795